

REMARKS

This communication is being filed in response to the final Office Action having a mailing date of May 25, 2007. Claims 2 and 6 are canceled herein without prejudice. For the reasons set forth below, it is kindly requested that the Examiner reconsider and withdraw the rejection of the claims, since it is respectfully submitted that the limitations recited in the claims are not met by the cited reference.

I. Discussion of the claims and cited reference

The final Office Action rejected claims 1-18, 21, 23-27, 29, 31, 32 and 34-37 under 35 U.S.C. § 102(e) as being anticipated by Ponti (U.S. Patent No. 6,494,086). The final Office Action indicated that claims 19-20, 22, 28, 30, 33, and 38 would be allowable if rewritten in independent form, for which the applicants thank the Examiner.

For the reasons set forth below, the rejection of claims 1-18, 21, 23-27, 29, 31, 32 and 34-37 on the basis of Ponti are respectfully traversed.

A. Discussion of claims 1, 2, and 6

Previously presented dependent claim 2, which is dependent upon independent claim 1, recited *inter alia* a “phonic wheel made rotatively rigid with respect to the engine drive shaft.” Previously presented dependent claim 6, which is dependent on claim 2, recited *inter alia* that the phonic wheel has a “number of equidistant teeth arranged on a circumference, a small group of adjoining teeth being missing to define a reference point on the wheel detectable by the sensor.” It is respectfully submitted that these limitations are not met by Ponti.

Specifically, Ponti’s engine drive shaft (which he refers to as a “crankshaft”) is shown at 12 in his Figure 1. A flywheel 14 having external toothing 16 is fitted onto the crankshaft 12. *See, e.g.*, Figure 1 and column 1, lines 51-56 of Ponti. The flywheel 14 of Figure 1 of Ponti appears to have no missing teeth at all (*e.g.*, all of the teeth of the toothing 16 shown in Figure 1 appear to be present). This is the extent of Ponti’s description with regards to the toothing 16—he discloses no further details as to the number and/or spacing of the toothing 16. More particularly, Ponti does not disclose, teach, or suggest that the toothing 16 of the engine

crankshaft 12 has “number of equidistant teeth arranged on a circumference, a small group of adjoining teeth being missing to define a reference point on the wheel.”

It is noted that Ponti’s Figures 2-3 disclose a phonic wheel 26 having “projections or recesses” 34. However, as clearly evident in Ponti’s Figure 1, the phonic wheel 26 is associated with his camshaft 22 and not with his crankshaft 12. Accordingly, Ponti’s phonic wheel 26 associated with his camshaft 22 cannot meet the limitations in the claims that require a “phonic wheel made rotatively rigid with respect to the engine drive shaft” and said phonic wheel having a “number of equidistant teeth arranged on a circumference, a small group of adjoining teeth being missing to define a reference point on the wheel.”

Independent claim 1 has been amended to include the recitations of dependent claims 2 and 6 pertaining to the phonic wheel of the drive shaft and with said phonic wheel having a number of equidistant teeth arranged on a circumference, a small group of adjoining teeth being missing to define a reference point on the wheel. Claims 2 and 6 now canceled herein without prejudice.

In view of this amendment to claim 1, it is respectfully submitted that claim 1 is in condition for allowance, since Ponti does not disclose, teach, or suggest at least these limitations now present in claim 1. It is further respectfully submitted that the amendments to claim 1 may be entered, since such amendments not raise new issues that would require further search and/or consideration. For example, the limitations added to claim 1 have already been searched and considered by the Examiner, when the patentability of former claims 2 and 5 was examined for the present and previous Office Actions.

B. Discussion of dependent claims 7 and 10

Dependent claim 7 recites that the number of teeth of the phonic wheel (of the drive shaft) and its number of missing teeth are “programmable.” Ponti is completely silent and makes no mention whatsoever with regards to the programmability of the toothing 16 of his flywheel 14. Thus, claim 7 is allowable over Ponti.

Dependent claim 10 recites that the fourth module is a “logic network.” A non-limiting and non-exhaustive example of the logic network of one embodiment of the fourth

module is shown in Figure 3A of the present application. As can be seen in this example embodiment of Figure 3A, the logic network is made up of an arrangement of logic gates 10 and 11.

Ponti does not disclose, teach, or suggest a fourth module that is a logic network. At most, Ponti discloses an electronic control unit 32 in his Figure 1. However, Ponti is silent and makes no mention whatsoever with respect to the electronic control unit 32 having a fourth module that is a logic network and/or with respect to his architecture including a fourth module that is a logic network.

Hence, claim 10 is allowable over Ponti.

C. Discussion of independent claims 14, 23, and 31

Independent claim 14 recites, inter alia, “a first I/O interface module incorporating a plurality of registers and receiving signals from the electronic motor control unit.” Independent claim 23 recites, inter alia, “a first I/O interface module embedding a plurality of registers and receiving signals from the electronic control unit of the engine.” Independent claim 31 as presented herein recites, inter alia, “a first I/O interface module embedding a plurality of registers and receiving signals from the engine electronic control unit (ECU).” It is respectfully submitted that none of these limitations are met by Ponti.

Specifically, Ponti shows his electronic control unit at 32. However, Ponti neither shows nor describes an I/O module of any sort, and in particular an I/O module having a plurality of registers. Moreover, Ponti does not show any sort of I/O module (having a plurality of registers) that receives signals from his electronic control unit 32.

For instance, the only things that Ponti shows and describes as communicating signals with his electronic control unit 32 are the sensors 28 and 30 in Figure 1. These sensors cannot be construed as the claimed I/O interface module incorporating/embedding a plurality of registers.

Thus, since Ponti does not disclose, teach, or suggest an I/O interface module, a plurality of registers incorporated/embedded therein, and/or an I/O interface module receiving signals from the electronic control unit, claims 14, 23, and 31 are allowable.

II. Other amendments

Various claims are amended as shown to provide appropriate antecedent basis, to make typographical corrections, and/or to otherwise place such claims in better form. Other claims are amended to update their dependency in view of the claim cancellations. It is respectfully submitted that such amendments may be entered and considered, since such amendments do not raise new issues that would require further search and/or consideration.

In view of the cancellations of claims 2 and 6, claims 1, 3-5, and 7-38 will remain pending upon entry of this amendment/response.

It is noted that a Substitute Specification accompanied the amendment/response that was previously filed on August 31, 2005. That previous amendment included a statement that no new matter had been added. It is further confirmed herein that the previously submitted Substitute Specification contains no new matter.

III. Conclusion

Overall, none of the references singly or in any motivated combination disclose, teach, or suggest what is recited in the independent claims. Thus, given the above remarks, it is respectfully submitted that the independent claims are in condition for allowance. The dependent claims that depend directly or indirectly on these independent claims are likewise allowable based on at least the same reasons and based on the recitations contained in each dependent claim.

If the undersigned attorney has overlooked a teaching in any of the cited references that is relevant to the allowability of the claims, the Examiner is requested to specifically point out where such teaching may be found. Further, if there are any informalities or questions that can be addressed via telephone, the Examiner is encouraged to contact the undersigned attorney at (206) 622-4900.

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The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable.
Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,
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